

Hydrol. Earth Syst. Sci. Discuss., referee comment RC2
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Comment on hess-2021-477

Anonymous Referee #2

Referee comment on "Probabilistic modelling of the inherent field-level pesticide pollution risk in a small drinking water catchment using spatial Bayesian belief networks" by Mads Troldborg et al., Hydrol. Earth Syst. Sci. Discuss.,
<https://doi.org/10.5194/hess-2021-477-RC2>, 2021

This study presents an innovative and interesting work on probabilistic modeling of pesticide pollution risk in Jersey Island. The manuscript was well written and in my opinion, this manuscript can be accepted after a few minor corrections.

Specific Comments:

1. L125, Page 5: " $\mu\text{g l}^{-1}$ " should be replaced as " $\mu\text{g L}^{-1}$ ". Same corrections need to be done for Table 1.
2. Table 1: The author has provided the mean concentrations for five pesticides along with the min and max limit. However, standard deviation needs to be included for each of the pesticides to make the table more statistically robust.
3. L140, Page 5: Remove the underline from "fluopyram".
4. Since, fluopyram was considered for the final model instead of ethoprophos, concentration, and detection level of fluopyram need to be included in table 1.
5. Page 10, Equation 3: The author has mentioned, "combined pesticide flux" which was converted to surface water concentration to evaluate the risk. However, there is some inconsistency in the units. Not clear. please check equation 3.

6. L415, Page 15: Is there any specific volume for the overland flow flux?

7. $\delta_{ij} \gg (\delta_{ij}) = -\sum \delta_{ij} (\delta_{ij}) \log_2(P(X))$ should be equation 16?

8. Author has mentioned the soil properties. It will be great to have that information in a tabular format. Specifically the soil organic carbon concentration and pH data.

9. Page 25: "particularly in the groundwater leaching risk (Figure ??)": Please mention the figure number.

10. There are quite a number of typographical errors. Please review the manuscript carefully.